

### Abstract

A problem of the present invention is to provide a wide band modulation PLL having good modulation accuracy at low cost. With respect to a PLL having a VCO (21), a frequency divider (22), a phase comparator (23), a charge pump (24) and a loop filter (25), the VCO (21) and a frequency dividing ratio of the frequency divider (22) are controlled to perform modulation. The VCO (21) has two control terminals for PLL and modulation, and a control signal generation part (28) generates a control voltage  $V_{tm}$  of the VCO (21) based on phase modulation data and an input voltage  $V_{tl}$  to the control terminal for PLL.

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10 At the time of adjusting a modulation factor, the control voltage  $V_{tm}$  to the control terminal for modulation of the VCO (21) is controlled and also the input voltage  $V_{tl}$  is measured and a modulation sensitivity of a frequency of the VCO (21) to  $V_{tm}$  is calculated and a modulation factor of the phase modulation data is adjusted based on the modulation sensitivity obtained.